

Ontario Ministry of Agriculture, Food and Rural Affairs

2001 SUPPLEMENT

Guide to Weed Control

Publication 75S

Spring Additions

There are several NEW product registrations for 2001. Following are a few remarks about each treatment.

Table 1. Herbicides Used in Ontario

Common Name	Trade Name	Formulation	Guaranteed Active Ingredient	Ont. Sch.	Herbicide Grouping	Interval Before Rainfall	Winter Storage	Manufacturer's Agent Codes
cloransulam-methyl	FIRSTRATE	WG	84%	2	2	2	C	DWE
fluzifop-p-butyl	VENTURE L	EC	125 g/L	5	1	2	C	ZNA
flumetsulam	BROADSTRIKE DUAL	SC	924.7 g/L	2	2,17	—	C	DWE
/metolachlor	MAGNUM	Sn	413 g/L	6	9	6	B	ZNA
glyphosate TMS	TOUCHDOWN 600	WG	47.4%	2	2,4	4	C	NOV
primisulfuron-methyl/ dicamba	SUMMIT	WG	915 g/L + 500 g/L	2	15,5	—	B	NOV
s-metolachlor + metribuzin	BOUNDARY ¹	EC + Su						
¹ available as a co-pack								

Table 2. Herbicide Crop Rotation and Soil pH Restrictions

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Field Crops

Trade Name	Number of months between herbicide application and planting crop																							
	Alfalfa	Barley	Barley (underscided)	Beans, kidney	Beans, white	Canola, including RR	Canola, IMI Smart	Clover, red	Corn, field including RR, LL, PP	Corn, CL	Corn, seed	Flax-linsced	Oats	Oats (underscided)	Peanuts	Rye, fall	Rye, fall (underscided)	Soybeans	Sunflowers	Tobacco	Wheat, spring	Wheat, spring (underscided)	Wheat, winter	Wheat, winter (underscided)
BROADSTRIKE DUAL MAGNUM	10	10	10	10	10	26	26	10	10	10	10	f	f	f	f	f	f	—	f	f	10	f	4	f
FIRSTRATE	9	f	f	9	9	26	26	f	9	9	f	f	f	f	9	f	f	—	30	30	f	f	4	f
SUMMIT	11	11	f	11	11	22	22	f	—	10	10	f	11	f	f	f	f	11	f	f	11	11	3	f

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Horticultural Crops

Trade Name	Asparagus	Beans, lima	Beans, snap	Beets, red	Beets, sugar	Broccoli	Brussel sprouts	Cabbage	Carrots	Cauliflower	Celery	Corn, sweet	Cucumber	Garlic	Herbs	Lettuce	Muskmelon	Onions	Parsnips	Peas	Peppers	Potatoes	Pumpkin	Rutabaga	Spinach	Squash	Tomatoes (transplanted)	Watermelon
	f	10	10	f	f	f	f	f	f	f	f	22	22	f	f	f	f	f	f	10	22	22	f	f	f	f	26	f
BROADSTRIKE DUAL MAGNUM	f	10	10	f	f	f	f	f	f	f	f	22	22	f	f	f	f	f	f	10	22	22	f	f	f	f	26	f
FIRSTRATE	f	f	9	9	f	f	f	f	f	f	f	18	f	f	f	f	f	f	f	9	f	f	f	f	f	f	f	f
SUMMIT	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f

BOLD = Crop rotation interval on label, intervals not indicated in bold are not on the label and are based on research information.

— = Registered for application on this crop

f = field bioassay, user assumes liability for all crops not indicated on label

General Notes:

VENTURE L is a new product containing fluzafop-p-butyl that is **replacing FUSILADE II**. All rates and crop uses for **VENTURE L** are the same as for **FUSILADE II**. See the label for more details.

TOUCHDOWN 600 is a new formulation of glyphosate with crop uses similar to other glyphosate products. Use rates are 0.8 times the rate of **TOUCHDOWN 480** (20% lower than **TOUCHDOWN 480**). See the label for more details.

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Active Ingredient TRADE NAME (Formulation)	RATE (active) PRODUCT PER HA	RATE PRODUCT PER ACRE	REMARKS (For more information see Pub 75 and product label)
Lima Beans			
postemergence broadleaf herbicide (page 87)			
fomesafen	0.24 kg/ha		▪ Apply POST when beans are in the 1-2 trifoliate leaf stage.
REFLEX	1 L/ha	0.4 L/ac	▪ Apply when weeds are small and actively growing.
plus adjuvant			▪ Apply in 200-350 L water/ha (80-140 L/ac water).
AGRAL 90	2.5 L/1000 L	2.5 L/1000 L	▪ DO NOT apply if rain is expected within 4 hrs after application.
			▪ DO NOT apply REFLEX to any field more often than once every 2 yrs.
			▪ DO NOT apply to crops under stress.
			▪ Some rotational cropping restrictions apply.
			▪ DO NOT harvest within 93 days of application.

Beans (Cranberry, Dutch Brown, Black, Yellow Eye, and White)

soil applied grass herbicide (page 85)

imazethapyr	0.075 kg/ha		▪ Apply PRE.
PURSUIT (240 g/L)	0.312 L/ha	0.125 L/ac	▪ Apply once per season.
			▪ DO NOT harvest within 100 days of application.
			▪ Severe rotational cropping restrictions are on the label.
imazethapyr	0.075 kg/ha		▪ Apply PPI.
PURSUIT (240 g/L)	0.312 L/ha	0.125 L/ac	▪ Apply once per season.
plus trifluralin	0.6-1.155 kg/ha		▪ DO NOT harvest within 100 days of application.
TREFLAN EC (480 g/L)	1.25-2.4 L/ha	0.5-0.96 L/ac	▪ Severe rotational cropping restrictions are on the label.

Corn

soil applied grass herbicide (page 111)

dimethenamid	1-1.125 kg/ha		▪ For pre-emergence use on seed corn.
FRONTIER	1.1-1.25 L/ha	0.44-0.5 L/ac	▪ Use the lower rate on soils of lower organic matter and the higher rate on medium and fine textured soils.
			▪ Consult the seed supplier for information on the tolerance of seed corn inbred lines prior to the use of FRONTIER herbicide.

Active ingredient TRADE NAME (Formulation)	RATE (active) PRODUCT PER HA	RATE PRODUCT PER ACRE
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REMARKS (For more information see Pub 75 and product label)

postemergent broadleaf herbicide (page 124)

primisulfuron-methyl / dicamba	0.166 kg/ha		▪ Corn should be within the 2–7 leaf stage. ▪ Apply when the quackgrass is within the 3–6 leaf stage. ▪ Controls quackgrass and most annual broadleaf weeds. Does not provide control of annual grasses. ▪ Apply when temperature, during the 24 hours before and after application, ranges between 5°C and 28°C. ▪ Do NOT use on seed corn or sweet corn. ▪ Do NOT apply to corn treated with an organophosphate insecticide.
SUMMIT plus non-ionic surfactant	0.35 kg/ha 2 L/1000L	0.14 kg/ac 2 L/1000L	

Soybeans

soil applied broadleaf herbicide (page 155)

cloransulam-methyl FIRSTRATE	35 g/ha 41.7 g/ha	17 g/ac	▪ Apply PRE. ▪ Apply in both conventional and conservation tillage systems. ▪ Some rotational cropping restrictions apply (see Table 2).
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soil applied grass and broadleaf herbicide (page 156)

s-metolachlor + metribuzin BOUNDARY (DUAL MAGNUM + SENCOR 500F)	1.05 to 1.60 kg/ha + 0.428 to 0.658 kg/ha 1.15 to 1.75 L/ha + 0.856 to 1.316 L/ha	0.46 to 0.7 L/ac + 0.34 to 0.53 L/ac	▪ Apply PP, PPI or PRE. ▪ Under preplant uses, a tank mixture with glyphosate may be used to control emerged weeds. ▪ Do not apply to coarse textured soils with less than 2% OM. ▪ Do not apply use on metribuzin sensitive varieties.
flumetsulam/metolachlor BROADSTRIKE DUAL MAGNUM (924.7 g/L)	2.215 kg/ha 1.56 L/ha	0.624 L/ac	▪ Apply PP, PPI or PRE. For PPI treatments uniformly incorporate with equipment set to work at a depth of 5–8 cm. ▪ For PP treatments in minimum or no-till systems apply up to 21 days before planting. ▪ Do NOT apply to areas where the soil pH is >7.8 and organic matter < 2%. ▪ Do NOT apply to soils containing more than 5% organic matter. ▪ Sufficient rainfall to moisten the soil to a depth of 5 cm should be received within 7–10 days for optimum weed control. ▪ Suspension concentrate formulation separates into 2 phases over time. Shake container before using. ▪ Some rotational cropping restrictions apply (see Table 2).

Active Ingredient TRADE NAME (Formulation)	RATE (active) PRODUCT PER HA	RATE PRODUCT PER ACRE	REMARKS (For more information see Pub 75 and product label)
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soil applied tank mixes (page 157) ▼

flumetsulam	2.22 kg/ha		▪ Apply PP.
/s-metolachlor	1.56 L/ha	0.624 L/ac	
BROADSTRIKE DUAL			
MAGNUM (924.7 g/L)			
plus glyphosate	0.89 kg/ha		
ROUNDUP (360 g/L)	2.5 L/ha	1 L/ac	
VANTAGE (360 g/L)	2.5 L/ha	1 L/ac	
flumetsulam/metolachlor	2.2 kg/ha		▪ Apply PRE.
BROADSTRIKE DUAL	2.4 L/ha	0.96 L/ac	
(923 g/L)			
plus cloransulam-methyl	17.5 g/ha		
FIRST RATE	20.8 g/ha	8 g/ac	
imazethapyr	75 g/ha		▪ Apply PRE.
PURSUIT	0.312 L/ha	0.125 L/ac	
plus cloransulam-methyl	17.5 g/ha		
FIRST RATE	20.8 g/ha	8 g/ac	

postemergence broadleaf herbicide (page 164)

cloransulam-methyl	17.5 g/ha		▪ Apply up to the 8-leaf stage for common ragweed and cocklebur, 6-leaf stage for giant ragweed, and 4-leaf stage for velvetleaf.
FIRSTRATE	20.8 g/ha	8 g/ac	
plus non-ionic surfactant	2.5 L/1000L	2.5 L/1000L	▪ Apply any time prior to flowering stage of soybeans.
plus liquid fertilizer			▪ Application prior to full emergence of first trifoliolate may cause temporary yellowing of soybeans.
(28-0-0 or 32-0-0)	25 L/1000L	25 L/1000L	

postemergence grass and broadleaf tankmix (page 166)

imazethapyr	75 g/ha		▪ Apply when weeds are up to 2-true leaf stage.
PURSUIT	0.312 L/ha	0.125 L/ac	▪ Use for control of annual grasses, lamb's-quarters and redroot pigweed.
plus cloransulam-methyl	17.5 g/ha		
FIRST RATE	20.8 g/ha	8 g/ac	
plus non-ionic surfactant	2.5 L/1000L	2.5 L/1000L	
plus liquid fertilizer			
(28-0-0 or 32-0-0)	2 L/ha	2 L/ha	

Active ingredient TRADE NAME (Formulation)	RATE (active) PRODUCT PER HA	RATE PRODUCT PER ACRE	REMARKS (For more information see Pub 75 and product label)
Sorghum and Millet for Forage (page 147)			
postemergence broadleaf herbicide (page 147)			

bromoxynil PARDNER (280 g/L)	0.28 kg/ha 1 L/ha	0.4 L/ac	▪ Apply post in 200–300 L/ha of water. ▪ Apply when the crop has more than 4 leaves, but before it is 20 cm tall. ▪ Apply ONLY one application per year. ▪ DO NOT harvest within 30 days of application.
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Ginseng

postemergence broadleaf herbicide			
fluzifop-p-butyl VENTURE L (125 g/L)	0.8–2 L/ha	0.32–0.8 L/ac	▪ Apply post up to 3 times per year: early May, late June and/or mid-August. ▪ Apply to actively growing grasses prior to tillering. ▪ Apply by ground application ONLY. ▪ DO NOT apply in the year of harvest.

postemergent grass & broadleaf herbicide			
glyphosate TMS TOUCHDOWN 480 (330 g/L)	0.9 kg/ha 2.5 L/ha	1.0 L/ac	▪ Apply post once in the spring before the crop has emerged above the soil. ▪ Apply in 50–100 L water/ha. ▪ DO NOT exceed rate or spray volume as crop injury may result. ▪ DO NOT contact actively growing ginseng foliage. ▪ DO NOT use a fall application in existing/established gardens.

Herbicide Weed Control Ratings

Trade name	Annual Grasses								Annual Broadleaves										Perennials						Crop Tolerance			
	barnyard grass	crabgrass	fall panicum	foxtail, giant	foxtail, green	foxtail, yellow	old witch grass	proso millet	buckwheat, wild	cocklebur	flcaban, Canada	lady's thumb	lamb's-s-quarters	mustards	nightskades, annual	pigweeds	ragweed, common	ragweed, giant	velvetleaf	bindweed, field	horsetail	milkweed	nutscdge	quackgrass		sow-thistle	thistle, Canada	
Soybeans — soil applied herbicides																												
BOUNDARY	9	9	8	8	9	9	9	5	7	7	5	9	9	9	8	9	8	7	8	2	2	2	8	2	2	2	G	
BROADSTRIKE DUAL MAGNUM	9	9	8	8	9	9	9	6	7	7	9	9	9	9	9	9	8	7	9	2	2	?	8	0	3	4	E	
FIRSTRATE	0	0	0	0	0	0	0	0	?	9	9	?	9	?	2	9	9	9	9	?	2	?	?	2	6	?	E	
BROADSTRIKE DUAL + FIRSTRATE	9	9	8	8	9	9	9	6	7	9	9	9	9	9	9	9	9	9	9	2	2	?	8	0	3	4	E	
PURSUIT + FIRSTRATE	8	7	7	9	9	9	8	7	8	7	2	9	9	9	9	9	9	9	9	2	2	2	7	6	2	2	E	
Corn — postemergence herbicides																												
SUMMIT	?	?	?	?	?	?	?	?	?	?	?	?	9	9	?	9	9	?	9	?	?	?	?	9	?	?	G	
Soybeans — postemergence herbicides																												
FIRSTRATE	0	0	0	0	0	0	0	0	7	9	9	?	2	9	2	2	9	9	9	?	2	?	?	2	7	7	E	
PURSUIT + FIRSTRATE	9	8	6	9	9	9	9	7	8	8	9	9	8	9	9	9	9	9	9	2	2	?	7	2	7	7	G	
VENTURE L	9	8	9	8	8	8	9	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	E	

? Insufficient information available to make a rating

BOLD ratings indicate weeds listed on the label for control or suppression

Each year the appropriate sub-committee of the Ontario Pest Management Research and Services Committee reviews the pesticides listed in this publication. To the best knowledge of the sub-committee, all of these pesticides were:

- federally registered
- reviewed by the Ontario Pesticides Advisory Committee (OPAC) and
- classified by the Ministry of the Environment as of April, 2001.

Discard old editions of this publication.

The information in this publication is general information only. All pesticides must be used in accordance with the product label and Regulation 914 under Ontario's *Pesticides Act*.

Pay close attention to all instructions and warnings on the pesticide label.

By printing this publication, the Ministry of Agriculture, Food and Rural Affairs does not offer any warranty or guarantee, nor does it assume any liability for any crop loss, animal loss, health, safety or environmental hazard caused by the use of a pesticide mentioned in this publication.

Policy Statement

In this publication, most recommendations list several pesticides that can be used for each pest discussed. In general the least hazardous materials and those growers have used satisfactorily for years are listed first. More toxic pesticides and/or newer ones with less practical grower experience follow. In some cases, the most effective pesticides are highly toxic.

This publication lists a number of brand names of pesticides. This is for the grower's convenience only. It is neither an endorsement of the product nor a suggestion that similar products are ineffective.

Weather and other factors influence the effectiveness of pesticides and the likelihood of crop injury by pest control chemicals. Consult the product label and other information regarding compatibility with other materials, the effect of environmental conditions, and so on for the specific product being considered. Wettable or soluble powders (WP, SP,

WDG or DG) are less likely to cause plant injury than liquid concentrates (EC, SC and F).

Health Canada has established maximum residue limits (MRLs) for pesticides. However, growers should be aware that processors or retailers may demand more restrictive limits. Growers should seek advice of their intended market as to which restrictions or limitations apply. Growers are also encouraged to keep accurate and up to date records on pesticide use in each crop.

Federal Registration and Provincial Classification

The Ministry of the Environment administers Ontario's *Pesticides Act* and Regulation 914.

All pesticides sold and used in Ontario must be:

- registered under the federal *Pest Control Products Act*, and
- classified under the provincial *Pesticides Act* by being placed in one of six schedules of the Ontario regulation.

Federal Registration

The Pest Management Regulatory Agency (PMRA) of Health Canada grants registration following an evaluation of scientific data to ensure that the product has merit and value; and the human health and environmental risks associated with its proposed use are acceptable.

1. Full Registration

Pesticide registrations are normally granted for a period of five years, subject to renewal.

2. Temporary Registration

Temporary registration may be granted for a period not to exceed one year, where the registrant agrees to produce additional scientific or technical information, or the pesticide is used for emergency control of a serious pest outbreak.

For more information on the federal registration system contact the PMRA at 1-800-267-6315 or www.hc-sc.ca/pmra/ia.

Provincial Classification

There are six classification schedules in Regulation 914. Pesticide products are classified based on their toxicity, environmental or health hazard, persistence of the active ingredient or its metabolites, concentration, and usage. This system regulates the distribution, availability and use of pesticide products in Ontario. For up-to-date information on the regulatory status of these or other pesticides contact the:

Ontario Pesticides Advisory Committee (OPAC),
2300 Yonge St., Suite 1203, Toronto, ON, M4P 1E4
Telephone (416) 314-9230 Fax (416) 314-9237
www.opac.gov.on.ca

Farmer Certification

Regulation 914 of the *Pesticides Act* makes it mandatory for farmers to be certified through the Grower Pesticide Safety Course to buy and use Schedules 1, 2 or 5 pesticides on land they farm. There must be at least one Certified Grower for each farm operation.

As of January 2000, all assistants must receive formal pesticide safety training, recognized by the Ministry of the Environment, before they can use Schedule 2 or 5 pesticides under the supervision of a Certified Grower. This applies to all assistants — including family members, farm employees and seasonal workers.

For more information check the Ontario Pesticide Education Program Web site at www.ridgetownc.uoguelph.ca/opep/ or call **1-800-652-8573 or (519) 674-1580**

Cette publication est aussi disponible en français.

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